

**SERCC Transmission Task Force
November 19, 2003 Interim Report**

Interim Findings

- The current transmission system in Kansas is reliable and adequate.
- Economic development aside from new generation is not hindered by reliability or electricity cost concerns.
- Expansion of the Kansas transmission system is governed by a process outside of state control.
- The process for considering transmission system expansion does not work very well.
- The willingness to expand the transmission is hindered by uncertainty as to how and from whom the costs of expansion will be collected.

Introduction

The Transmission Task Force (TTF) was formed by the Chairman of the State Energy Resources Coordinating Council on September 26, 2003. Since its formation, the TTF has met as follows:

October 3	Organizational meeting
October 23	Refine TTF charge into specific policy issues
November 4	Preliminary reports and background
November 14	Prepare interim report

The charge to the TTF was summarized as follows:

1. Identify capacities, needs, limitations, and opportunities in the Kansas electric transmission system.
2. Determine the reliability of the Kansas transmission system and its susceptibility to disruption and outages.
3. Recommend solutions to removing constraints, developing transmission capacity, and ensuring reliability of the transmission system in Kansas.

As a result of subsequent discussions, the TTF seeks to recharacterize its charge as development of a state transmission infrastructure plan. Ideally, this plan would be an essential component of an overall state energy strategy to be developed by the SERCC. The plan would incorporate not only a blueprint for state action, but also articulate the state's role in policy development at the regional and national level. Developing such a plan requires an examination of four policy issues and some review.

The policy issues include:

#1 - Consideration of ownership options for transmission system additions and improvements as well as the existing transmission system.

#2 -What is the role of the public sector in directly facilitating development of new transmission associated with new generation?

#3 - Should some preference be given to local generation fuel resources in prioritizing access to the transmission system?

#4 - Help develop Kansas public policy position in regional and national energy arenas regarding transmission and related issues.

The TTF determined that it should assess the current Kansas transmission system in several areas:

- current and near-term reliability status,
- perceived reliability and cost effects on economic development,
- current transmission planning and generation interconnection process,
- available transmission capacity
- non-government regional transmission reliability and planning initiatives, and state-sponsored initiatives,
- an assessment of the effects of recent Kansas legislation affecting electric utilities and
- an assessment of new national energy legislation, when passed.

These assessments provide support for the TTF's eventual policy recommendations and infrastructure plan.

Current and Near-Term Reliability Status

The TTF has been unable to identify any portions of the Kansas transmission system subject to persistent reliability problems. Neither utilities nor the KCC staff has detected operational reliability problems occasioned by transmission constraints. The TTF will further address long term system reliability. The TTF also sought to identify major industrial development projects within the last five years in which electricity cost and reliability were a substantial factor in the decision whether or not to locate in the state of Kansas. TTF member Doug Kinsinger polled Kansas economic development groups through the Kansas Chamber of Commerce and Industry (KCCI). No respondent indicated a lost project because of high rates or substandard reliability, and several respondents were complimentary to their host utilities.

However, there are definite constraints limiting the ability of the existing transmission system to accommodate new transmission service or any large scale generating facility. This is because the transmission system is heavily loaded in most of Kansas and neighboring states. In Oklahoma, for example, there are reports of merchant generation plants being unable to move energy to their intended customers for lack of sufficient transmission capacity. Although no major new transmission projects have been committed to or funded, several have been identified, and utilities such as Aquila and Midwest Energy are expected to make incremental improvements and expand their interconnection capabilities.

While the TTF has not identified an immediate concern with transmission reliability, the current transmission system operates with relatively high energy losses. High transmission losses in western Kansas are often attributed to heavy and unscheduled flows of energy due to power attempting to move from west to east across Nebraska. Additionally, transmission energy losses for Kansas utilities have increased in recent years as the volume of wholesale transactions has increased. While higher losses may not affect reliability, they do create higher costs for the ultimate consumer. There may be instances where transmission system upgrades and improvements could lead to lower energy losses on the transmission system and lower overall costs for Kansas electric customers.

Current Transmission Planning and Generation Interconnection Process

Access to the transmission system is governed by complex rules, policies and procedures predominantly promulgated by the Federal Energy Regulatory Commission (FERC) and administered by regional power pools regulated by the FERC. In Kansas, several transmission owners are members of the Southwest Power Pool (SPP) for transmission purposes. Sunflower Electric Cooperative and Aquila are members of the Mid-American Power Pool (MAPP). Under current proposed SPP rules all needs for additional transmission service, even for a utility serving its own retail customers must be processed by the power pool. The process is relatively simple where a utility is seeking to expand transmission facilities or increase its use of existing transmission facilities to meet the needs of its customers.

However, the process is more complicated for wholesale customers seeking new transmission service or for new generators seeking to interconnect with the transmission system. For example, any party that seeks to add a generator to the transmission system, whether it be a utility or not, whether it be fossil-fueled or wind-powered, must go through a two stage process: 1) determine facilities needed to connect the new generation to the transmission system and 2) determine transmission system improvements needed to move energy from the new generator to its customers.

Tom Stuchlik, P.E., Executive Director Transmission Services for Westar, presented an SPP briefing to the TTF that covered this and related topics in more detail. That briefing has been posted at the SERCC website.

The SPP would like to process both stages of requests in approximately 240 days (8 months), though it is rarely able to move this fast. Causes for the delays are many, though several stand out.

- Many requests are preemptive and do not reflect a high probability of materializing.
- Multiple requests relate to service to the same customer from multiple potential sources, or to multiple potential customers from the same source.
- Requests are processed one at a time in the order that they are received.

The costs of remedying preexisting bottlenecks are assigned to almost every new transmission service request and are often regional in nature. For example, a constraint on an SPP member's system in Arkansas has shown up as an improvement that must be paid for by a Kansas SPP member seeking to change transmission service arrangements for some of its Kansas customers.

Available Transmission Capacity

The TTF needs to assess this issue. Based on current knowledge, any new generation will be tagged with significant transmission costs. Sunflower recently advised the TTF chairman that no transmission request by any customer for service from any portion of its proposed Holcomb 2 plant has been approved without tens of millions of dollars of required transmission investment. There may be limited opportunities to add small amounts of wind generation adjacent to substations on transmission lines at little cost, but the amounts are in the tens of megawatts rather than the 100 MW and larger quantities most commonly proposed.

There is a misperception that new generation should be able to tie into transmission with little or no required new transmission investment. In the past, when utilities planned for generation and transmission on an integrated basis, it was common for utilities to build transmission capacity to accommodate not just currently planned but future power plants. Now, utilities must respond to transmission requests without knowing in advance where or when most new generation will be located.

Paying for Additional Transmission Capacity

Under the old system prevalent before open access transmission policies were adopted in the early and mid 90's, the utility paid for all transmission construction and included such costs in rates to its customers. In today's environment who pays for such investment and how they pay is a contentious issue. The entity requesting transmission service may not be buying or selling any energy to the utility, working instead with third parties.

The TTF has yet to discuss this issue in depth, though it is a part of two of the four policy issues identified above.

Few would challenge the proposition that improvement costs should be paid either by those who "caused" the costs, or those who benefit from the service. Utilities owning the transmission lines that connect generation to wholesale or retail customers are reluctant to invest in transmission improvements. The issue is more complex than just the inconvenience of undergoing a lengthy and complicated federal, and possible state, rate proceeding. It also involves the uncertainty of future transmission regulatory policy, uncompensated use of the current transmission system, and the difficulty in procuring right of way and siting transmission lines. Generation developers are often short of capital or unwilling to invest capital far in advance of receiving revenues for selling energy. Wholesale customers (electric utilities who purchase generation) face the same rate constraints as the utilities providing the intermediate transmission service. This impasse, and the lack of a clear regulatory signal for how future transmission system improvements will be funded, is a major impediment to adding generation.

Regional and Neighbor State Initiatives

Inevitably, most reliability issues transcend state boundaries. This is driven primarily by the physics of interconnected transmission systems wherein the electrons follow the path of least resistance rather than state boundaries or the path assumed in the related financial transaction. It is also driven by federal regulation of most wholesale electric transactions, the interstate nature of many of the transactions, the existing regional power pool framework with entities such as MAPP and SPP, and federal regulatory and statutory pressure on utilities to devolve transmission planning and operational responsibilities to Regional Transmission Organizations (RTO's). These factors create challenges and opportunities for Kansas policy-makers. Task Force member Gene Merry reviewed how nearby states are responding.

The largest regional effort is not state-sponsored at all. The Midwest Independent System Operator (MISO) is an independent entity governed by a board that represents neither transmission system owners nor generators and sprawls across 14 states. MISO and the SPP sought to merge, and for several years it was believed that MISO would become the RTO of choice for all Kansas utilities. MISO even commissioned a study of transmission system reliability and improvements that will be reviewed by the TTF. More recently, prospective MISO participants have been disillusioned by sharply escalating operational costs and a growing sense that MISO has become too large and too distant from those it seeks to serve.

A second alternative available to Kansas is reported by a prospective participant to have just disappeared. TRANSLink Development Company LLC sought to aggregate transmissions systems across an 11 state area into a single independent transmission company. The company envisioned an accommodating approach offering utilities the alternatives of ownership and operation, operation

only, ownership of additions only and more. The primary reason for TRANSLink's failure is believed to be regulatory resistance in states other than Kansas.

Some state-specific comments appear below.

Colorado and Minnesota appear to be doing the best job of addressing transmission bottlenecks at the state level. Texas does well, but its utilities are mostly state, not federal jurisdictional because of its isolated transmission system. No state on the interconnect transmission system is openly challenging Federal Energy Regulatory Commission (FERC) authority. Most states continue to use a certificate of service application process through state utility commissions prior to authorizing construction of facilities.

Arkansas - Legislature passed legislation to review planning guide for electric utilities order #1 03-070R. No known interstate transmission planned. Independent power producers have expressed interest in new generation, though Arkansas no longer has excess capacity in its transmission system.

Iowa - Midwest Electric Transmission Companies formed a multi-state policy advocacy group to review transmission. They have no independent study going on in Iowa. They have had some new wind power added but very little fossil fuel generation. On December 27, 2002 the Iowa Utilities Board opened an inquiry into the aging transmission and distribution infrastructure of Interstate Power & Light Co. (Interstate) and Mid American Energy (Mid-American) in Iowa. This was an informal collaboration proceeding. No transcripts were kept.

Minnesota

- The Minnesota Statutes in August 2001 were revised to include the requirement electric transmission owning utilities in the state of Minnesota file a biennial transmission planning report. In 2003, new statutes associated with Biennial Transmission Filing Rulemaking adopted the process of soliciting public input into subsequent biennial planning reports, including the requirement for public planning meetings in different parts (zones) of the state. With the public participation and elimination of redundant individual certificate of need procedure, the state planning process is designed to provide a more expeditious review and certificate of transmission projects in the public interest. In the past year Minnesota and Iowa started a municipal electric utility transmission group to allow cities a forum to address their concerns and have them included in the big picture of electrical energy planning.

Missouri

– On November 3, 2003 Missouri PSC held a roundtable meeting. The first half of the day was to be dedicated to current generation, current transmission, new generation, new transmission, integrated resource plan and future needs through the end of the decade. The second half of the day was to be spent on rate making.

Missouri utilities are buying some new wind generation from Kansas. For example, 60 MW of the Gray County wind farm are dedicated to Aquila's Missouri electric customers. State policymakers show interest in encouraging construction of new generation, and are looking at adopting Kansas legislation on plant siting and transmission guidelines. Missouri advocates no priority for renewable energy over fossil-fueled generation in providing transmission access. The state takes no position on whether the SPP should become an RTO.

Oklahoma - Oklahoma officials state they are working on state coordinated plan on transmission with Arkansas, Louisiana, Missouri and possibly Kansas, but Texas doesn't seem to have much interest. Interestingly, none of the referenced states echoed Oklahoma's statement. Oklahoma has been in the forefront of adding merchant generation, though very little that is wind-powered. The state's natural gas supply is also declining. Transmission cost recovery would be based on FERC service guidelines. Two PUC commissioners had early dreams to make Oklahoma the merchant energy production capital of nation. Transmission costs have halted that dream. They support the SPP becoming an RTO.

Colorado – Based on website information, Colorado has several transmission projects recently built or in application process, from start to finish without delays takes about 18 months. One particular transmission project near Telluride had opponents suggesting the proposed 69kv line should have portions underground, limit the height of above ground structures to 60 feet and mitigate environmental impacts. The utilities involved say some of the conditions will impede the company's ability to provide safe, reliable and economic service to the public. The costs of the project will be recovered through the normal FERC process. The TTF will research Colorado more thoroughly.

Texas – Unlike Kansas and other states, Texas is large enough to preserve most of the benefits of interconnected, multi-utility transmission systems while keeping roughly 85% of its transmission isolated from other states. State jurisdiction oversees the Electricity Reliability Council of Texas (ERCOT), an entity akin to the FERC jurisdictional SPP. ERCOT has recently reviewed electric system constraints and needs within the ERCOT region. This is a very comprehensive report detailing bottlenecks in transmission and recommendations to address transmission constraints. Texas resources dwarf those available to Kansas.

Nebraska – All electric utilities in Nebraska are publicly-owned and exempt from FERC jurisdiction. Most utilities had planned to combine their transmission operations under TRANSLink.

Effects of Recent Kansas Legislation

The Kansas Legislative Research Department and the KCC provided summaries of state legislation affecting utilities in recent years. Those most pertinent to transmission reliability and accommodating new generation include:

- 1999 SB 45 – renewable energy real property tax exemption.
- 2000 Sub. For SB 243 – repeals siting act for all non-nuclear generation.
- 2001 HB 2226 – property tax exemptions for independent power producers (IPP's).
- 2001 HB 2268 – allows the Kansas Corporation Commission to allow utilities to recover Construction Work in Process (CWIP) for investments in generation and transmission, even if the project may not be finished until some time in the future..
Expands property tax exemptions.
- 2003 Sub. For SB 104 – predetermination by the KCC of ratemaking treatment for new transmission and generation facilities.
- 2003 HB 2018 – Authorizes the Kansas Development Finance Authority (KDFA) to issue revenue bonds for new or acquired transmission facilities.
- 2003 HB 2130 – expands the benefits to be considered in reviewing transmission line siting applications, allows pass-through of regulatory imposed transmission costs.

The TTF will study the effects of this impressive list of legislation. Its immediate reaction is that little has happened. If true, the TTF will specify what impediments remain.

Effects of National Energy Legislation

The Energy Policy Act of 2003 cleared the House-Senate Conference Committee on November 17 and is expected to be sent to the President within a week. The Act extends production tax credits of approximately 1.8 cents per kWh that drive continued renewable energy, particularly wind farm development. The Act does not set a Renewable Portfolio Standard, considered by many to be essential to increasing the growth rate of the wind energy industry.

The Act also promotes investment in critical electric transmission capacity and efficiency measures by directing the Federal Energy Regulatory Commission (FERC) to do an incentive rate rulemaking and provide for participant funding; provides for expedited siting processes on both federal and private lands; and provides for the use of advanced transmission technologies.

The Task Force has not been able to review this legislation as a group, and will comment further at a later time.

Next Steps

- Assess long-term transmission reliability.
- Assess available transmission capacity.
- Identify and evaluate pros and cons of various methods of funding transmission system improvements.
- Identify best in class transmission planning processes.
- Determine the transmission components of the SERCC's state energy plan.
- Determine possible regulatory and legislative initiatives.